

## Abstract of th Disclosur

A fiber which includes a thermoplastic polymer and particles of a ferroelectric material dispersed therein. The thermoplastic polymer may be, for example, a polyolefin, such as polypropylene or polyethylene, and the ferroelectric material may be barium titanate. The ferroelectric material may be present at a level of from about 0.01 to about 50 percent by weight (from about 0.001 to about 13 percent by volume), and will have a longest dimension in a range of from about 10 nanometers to about 10 micrometers. The fiber may be exposed to an electric field. A plurality of the fibers may be employed to form a knitted or woven fabric or a nonwoven web. Also provided is a method of preparing fibers containing particles of a ferroelectric material. The method includes destructuring the ferroelectric material in the presence of a liquid and a surfactant to give destructured particles; the liquid is a solvent for the surfactant and the surfactant is adapted to stabilize the destructured particles against agglomeration. A blend of the stabilized, destructured ferroelectric material particles and a thermoplastic polymer then is formed and extruded to form fibers. The extruded fibers may be collected on a moving foraminous support to form a nonwoven web and, if desired, may be exposed to an electric field. The fiber of the present invention, especially when in the form of a nonwoven web, is especially suited as a filtration medium. For example, the nonwoven web may be adapted to remove particulate matter from a gaseous stream.